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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/867,352	05/29/2001	Charles H. McConica	10992423-1	6129

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EXAMINER

YE, LIN

ART UNIT PAPER NUMBER

2615

DATE MAILED: 07/29/2004

[Handwritten number 4]

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/867,352

Applicant(s)

MCCONICA, CHARLES H.

Examiner

Lin Ye

Art Unit

2615

— The MAILING DATE of this communication appears on the cover sheet with the correspondence address —

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 May 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-5, 8-13, 27 and 32 is/are allowed.
- 6) ☒ Claim(s) 14, 19-26 and 28-31 is/are rejected.
- 7) ☒ Claim(s) 6-7 and 15-18 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities:

In Page 22, lines 22-23, it discloses "Fig. 7B" and "Fig. 7C". However, there is no Figures 7B or 7C in drawing section.

Appropriate correction is required.

2. Claims 6-7 are objected to because of the following informalities:

Referring to claim 6, page 30, lines 8-9, it discloses "... calculating a second ratio of said **first** figure of merit to said **second** figure of merit...". It should be change to --calculating a second ration of said **third** figure of merit to said **fourth** figure of merit-- according with Figures 4A-B and specification page 21, lines 24-30.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claim 14 and 19 is rejected under 35 U.S.C. 102(b) as being anticipated by

Ogasawara J.P. Publication 11-284944.

Referring to claim 14, the Ogasawara reference discloses in Drawings 1-10, a method for reducing motion blur (i.e., camera-shake causing the image blur) in an image, said method comprising: providing image data representative of said image; analyzing said image data to detect the presence of motion blur in said image; analyzing said image data to detect the direction of motion blur in said digital image; processing said image data to increase edge acuity (as shown in drawing 10 after the correction arithmetic operation is applied from drawing 7, see Detailed description [0032] and [0060]) said image in said direction of said motion blur (See Detailed description [0007] and [0009]).

Referring to claim 19, the Ogasawara reference discloses wherein said providing image data (a description field) comprises providing image data representative of a portion of said image (e.g., the description field is choose from the block containing most edge components of the image, see [0009]).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 20-23, 24-26, and 28-31 rejected under 35 U.S.C. 103(a) as being unpatentable over Ogasawara J.P. Publication 11-284944 in view of Schroeder et al. U.S. Patent 3,627,920 and Lawton U.S. Patent 5,109,425.

Referring to claims 20-21 and 23, the Ogasawara reference discloses all subject matter as discussed in respected claim 14, except that the reference does not explicitly show the processing means comprises using a Fourier transform for transforming image data to determine the direction and amplitude of motion blur; and increasing the magnitude of the amplitude of the signals in a preselected set of spatial frequencies.

The Schroeder reference discloses in Figure 1, an image processing apparatus using Fourier transform to transform the image data and analysis the direction of blurring in photograph (See Col. 4, lines 43-65, and Col 5, lines 6-43). The Schroeder reference is evidence that one of ordinary skill in the art at the time to see more advantages for using Fourier transform to transform the image data and analysis the direction of motion blurring of image data so that the certain parameters of the blurring can identify and adjust (reducing motion blur in the image) in accordance with parameter values, such as blurring direction and distance (amplitude of motion blur) more accurately (see Col. 2, lines 62-63).

The Lawton reference discloses in Figures 1-5, a computer containing an instruction to indicate the direction of motion (see Col. 5, lines 21), and enhance the image (reducing the motion blur) to increase the visibility of moving object borders by using asymmetric band pass filtering that boosts the amplitudes of the signals in a preselected set of spatial frequencies (the intermediate spatial-frequencies, see Col. 8, lines 25-30). The Schroeder reference is evidence that one of ordinary skill in the art at the time to see more advantages for increasing the magnitude of the amplitude of the signals in a preselected set of spatial frequencies of the image data in the direction

of motion blur so that significantly improve the image enhancement accuracy without effect by blurring.

For that reason, it would have been obvious to see the processing means comprises using a Fourier transform for transforming image data to determine the direction and amplitude of motion; and increasing the magnitude of the amplitude of the signals in a preselected set of spatial frequencies disclosed by Ogasawara.

Referring to Referring to claims 22, the Ogasawara, Schroeder and Lawton references disclose all subject matter as discussed in respected claim 21, and the Schroeder reference discloses comprising transforming said image data back to the spatial domain by an inverse Fourier transform (See Col. 4, lines 54-65).

Referring to Referring to claims 24-26, the Ogasawara, Schroeder and Lawton references disclose all subject matter as discussed in respected claim 20-21.

Referring to Referring to claims 28-31, the Ogasawara, Schroeder and Lawton references disclose all subject matter as discussed in respected claim 20-23.

Allowable Subject Matter

7. Claims 1-5, 8-13, 27 and 32 allowed.
8. Claims 15-18 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
9. The following is an examiner's statement of reasons for allowance:

The prior art does not teach or fairly suggest a method for detecting motion blur in a digital image, said method comprising: providing image data representative of said digital image; analyzing said image data to calculate a first figure of merit of said digital image in a first direction; analyzing said image data to calculate a second figure of merit of said digital image in a second direction, said first and said second directions being substantially orthogonal; calculating a first ratio of said first figure of merit to said second figure of merit, said ratio being the greater of said first or second figure of merit divided by the lesser of said first or second figure of merit; and comparing said first ratio to a preselected value, wherein motion blur exists in said digital image if said first ratio is greater than said preselected value..

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Lin Ye** whose telephone number is **(703) 305-3250**. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Christensen can be reached on (703) 308-9644.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, DC. 20231

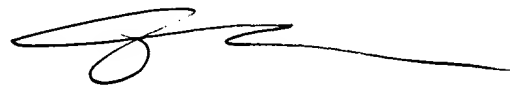
Or faxed to:

(703) 872-9306

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal drive, Arlington, VA., Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Lin Ye
July 26, 2004



ANDREW CHRISTENSEN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600